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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2003/082260 A3

(54) Title: TUBERCULOSIS TREATMENT USING PLEUROMUTILIN DERIVATIVES

(57) Abstract: A method of preventing or treating diseases caused by Mycobacterium, comprising administering to a subject in need of such treatment an effective amount of a pleuromutilin.

## INTERNATIONAL SEARCH REPORT

Rec'd PCT/PTO 28 SEP 2004  
11/509502International Application No  
PCT/EP 03/03215

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7	A61K31/13	A61K31/195	A61K31/44	A61K31/155	A61K31/495
	A61K31/15	C07D211/60	C07D211/54	C07D295/18	C07D223/06
	C07D207/12				

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category <sup>a</sup>	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 71560 A (SMITHKLINE BEECHAM PLC ; SMITHKLINE BEECHAM CORP (US); HEGG LISA AN) 30 November 2000 (2000-11-30) page 13, line 10 - line 11	1-5
Y	page 13, line 22 - line 23 page 22, line 17 figures 5,6	16
Y	EP 0 013 768 A (SANDOZ AG) 6 August 1980 (1980-08-06) page 6, column 7 - page 7, column 11	16
	page 8, lines 5,6; examples 5,14-17	

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"8" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

29 July 2003

12.12.03

Name and mailing address of the ISA

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 03/03215

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: \_\_\_\_\_  
because they relate to subject matter not required to be searched by this Authority, namely:  

Although claims 2-5 and 18 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2.  Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-5, 16

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Claims Nos.: -

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5,16

Use of a 14-O-sulfanylacetatemutilin having a single bond between positions 1 and 2 for the manufacture of a medicament for the treatment of tuberculosis.

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2. claims: 6 (partially), 7-9, 11 (partially), 12-15 (partially), 17 (partially) and 18 (partially)

Specific derivatives of 14-O-sulfanylacetatepleuromutilin having a carbocyclic moiety attached to the sulfur in common and their use as antimicrobials.

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3. claims: 6 (partially), 10, 11 (partially), 12-15 (partially), 17 (partially) and 18 (partially)

Specific derivatives of 14-O-sulfanylacetatepleuromutilin having a heterocyclic moiety attached to the sulfur in common and their use as antimicrobials.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/03215

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 0071560	A 30-11-2000	EP 1181305	A1	27-02-2002
		JP 2003523729	T	12-08-2003
		WO 0071560	A1	30-11-2000
EP 0013768	A 06-08-1980	AT 6062	T	15-02-1984
		AU 533691	B2	08-12-1983
		AU 5453580	A	17-07-1980
		CA 1125778	A1	15-06-1982
		CY 1353	A	24-04-1987
		DE 2966635	D1	08-03-1984
		DK 4280	A ,B,	13-07-1980
		EP 0013768	A1	06-08-1980
		ES 8101536	A1	16-03-1981
		FI 800024	A ,B,	13-07-1980
		HK 40587	A	29-05-1987
		IE 49356	B1	18-09-1985
		IL 59108	A	31-07-1983
		JP 55094359	A	17-07-1980
		KE 3689	A	20-02-1987
		MY 72687	A	31-12-1987
		NZ 192576	A	31-05-1984
		PH 17391	A	08-08-1984
		PT 70682	A	01-02-1980
		US 4428953	A	31-01-1984
		YU 6280	A1	28-02-1983
		ZA 8000175	A	26-08-1981